

CLAIMS

- 1 1. A communication system for facilitating remote communications, comprising a first
2 device having:
3 a first global positioning system (GPS) receiver for receiving a carrier signal;
4 a signal encoder system for encoding data using a first clock signal at a predetermined
5 clock frequency, wherein the clock signal is derived directly from the carrier signal; and
6 a data transmitter for transmitting the encoded data.
- 1 2. The communication system of claim 1, further comprising a second device having:
2 a second GPS receiver for receiving the carrier signal;
3 a data receiver for receiving the encoded data from the transmitter; and
4 a signal decoder system for decoding the encoded data using a second clock signal at
5 the predetermined clock frequency, wherein the second clock signal is derived directly from
6 the carrier signal received from the second GPS receiver.
- 1 3. The communication system of claim 1, wherein the carrier signal is an L1 signal.
- 1 4. The communication system of claim 1, wherein the carrier signal is an L2 signal.
- 1 5. The communication system of claim 1, wherein the signal encoder system derives the first
2 clock signal by modulating the carrier signal.

1 6. The communication system of claim 1, wherein the signal encoder system includes a first
2 security system for changing the predetermined clock frequency to a predetermined sequence
3 of frequencies.

1 7. The communication system of claim 6, wherein the signal decoder system includes a
2 second security system for changing the predetermined clock frequency to the predetermined
3 sequence of frequencies.

1 8. The communication system of claim 2, wherein the first and second device communicate
2 in a synchronous manner.

1 9. The communication system of claim 2, wherein the first and second device communicate
2 in an asynchronous manner.

1 10. A communication device for receiving data encoded at a predetermined frequency,
2 comprising:
3 a global positioning system (GPS) receiver for receiving a carrier signal; and
4 a signal processing system for decoding the data using a clock signal at the
5 predetermined frequency, wherein the clock signal is derived directly from the carrier signal;
6 wherein the encoded data includes non-GPS data.

1 11. The communication device of claim 10, wherein the carrier signal is selected from the
2 group consisting of an L1 signal and an L2 signal.

1 12. The communication device of claim 10, wherein the encoded data comprises wireless
2 data.

1 13. The communication device of claim 10, further comprising a transmitter that includes
2 a system for encoding data using an encoder clock signal derived from the carrier signal.

1 14. A method for synchronizing signals in a communication system, comprising the steps of:
2 receiving a global positioning system (GPS) carrier signal;
3 generating a clock signal derived from the carrier signal; and
4 synchronizing a non-GPS data stream with the clock signal.

1 15. The method of claim 14, wherein the clock signal is generated at a predetermined
2 frequency.

1 16. The method of claim 14, comprising the further step of transmitting the non-GPS data
2 stream at the frequency of the clock signal.

1 17. The method of claim 14, wherein the non-GPS data stream was received from a remote
2 transmitter also operating at the frequency of the clock signal.

1 18. The method of claim 14, comprising the further step of periodically changing the
2 frequency of the clock signal.

1 19. A method of synchronizing a pair of communication devices, comprising the steps of:
2 receiving a global positioning system (GPS) carrier signal at a first device;
3 at the first device, deriving from the carrier signal a transmitter clock signal having a
4 predetermined frequency;
5 transmitting data at the predetermined frequency from the first device;
6 receiving the data at a second device;
7 receiving the GPS carrier signal at the second device; and
8 at the second device, deriving from the carrier signal a receiver clock signal having
9 the predetermined frequency.

1 20. The method of claim 19, comprising the further step of:
2 synchronizing the received data using the receiver clock signal.

1 21. The method of claim 19, wherein the transmitter clock signal and the receiver clock
2 signal are derived from the carrier signal using a common formula.

1 22. The method of claim 19, comprising the further step of systematically altering the
2 frequency of the transmitter clock signal and the receiver clock signal using a predefined
3 scheme.

1 23. The method of claim 19, wherein the data is transmitted via a wireless communication
2 channel.

1 24. A communication device for processing data, comprising:
2 a global positioning system (GPS) receiver for receiving a carrier signal;
3 a signal processing system for converting the carrier signal to a clock signal at a
4 predetermined frequency; and
5 a universal asynchronous receiver/transmitter (UART), wherein the UART utilizes
6 the clock signal obtained from the signal processing system to process data.

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